

IN THE SPECIFICATION:

After the title, please insert:

This application is a divisional of US Application Serial No.:
09/592,190, filed June 12, 2000, which is divisional of US
Application Serial No.:09/020,204 filed February 6, 1998.

On page 11, continuing onto page 12, please amend the specification as follows:

The mechanical and electrical functions of the bipolar foil are to provide a backing for the photolithographic member 60 by enabling collection of fuel within the cell and a hermetic gas passageway 22 to direct the exhaust fuel and gas generated on the ~~fuel~~ anode side of the foil, to transmit electrical current to the next cell, to provide spacing on the fuel and air sides of the foil for gas flows and to evenly distribute the temperature and current flow through the cells. Preferably, the bipolar metal member has contact portions extending outwardly in two directions from a plane of the bipolar metal member for engagement with said ceramic composite member.

On page 25, continuing onto page 26, please amend the specification as follows:

Application of Electrode Layers

Following the dipping and firing of the base and seal coats and solution, and the addition of an electrocatalyst in appropriate embodiments, electrode layers ~~112~~ 112e are applied. The electrode layers are made of silver paste, or suitably alloyed silver paste such as Ag-Pd, Ag-Pt or a silver cermet such as Ag-10 percent TZ-8Y zirconia powder. Following the electrode layer ~~112~~ 112e, a current collector 111 is provided which is in electrical communication with the dimples of the same cell 12 and an adjacent cell 12. The current collector 111 is preferably a silver mesh or perforated or embossed silver sheet, or other materials and forms which permit gas to pass and electrons to flow concurrently.

The elements of the cell may thus be as illustrated in Figure 16C, with the ceramic composite material 61, comprising the metal ligaments of the honeycomb section 80 of the photolithographic foil member 60 (shown in cross-section), base coat B, seal coat C and fired seal solution within the base and seal coats, which together form the solid electrolytic composite. The material 61 is preferably coated on at least one side, in the fluid fuel embodiment, with the electrocatalyst 122. Separate electrode layers ~~112~~ 112e are then provided on each side of the material 61. The current collector 111 layer may then be optionally provided on one or both sides of the material 61. On the fuel side, where a current collector 111 may be optionally included, it is interspaced between the electrode layer ~~112~~ 112e and the bipolar foil member 50 of the cell for engagement with the small dimples 66 of the bipolar foil member 50. On the air side, where a current collector 111 may also be optionally included, it is interspaced between the

electrode layer 112 and the bipolar foil member 50 of the adjacent cell of the cell stack 13 for engagement with the large dimples 64 of the bipolar foil member 50. In this configuration, the members 50, 60 are welded W as illustrated. If a current collector 111 is included, the use of a dimple pattern in the bipolar foil member 50 may be eliminated. For the Figure 1A embodiment using fluid fuels, a current collector 111 on the fuel side of the cells may additionally have the function of controlling the fluid flow field, or travel of the fluid, across the active area of the cell. Such fluid flow control provides desired homogenous current density and efficient consumption of the fuel. Further more detailed aspects of the cell assembly are now described.

On page 27, please amend the specification as follows:

As previously discussed, once stacked, the cells 12 are electrically connected via the electrical contact layers 112 on the dimples 64, 66 of the bipolar foil 50, and the electrode layer ~~112~~ 112e on both sides of the ceramic composite material of the photolithographic foil member 60. Thus, in the illustration of Figure 2, the cathode 16 supported on the member 60, contacts the contact layers 112 of the large dimples 64 of the bipolar foil 50 of an adjacent cell 12. Incoming air flows in the air plenum intermediate the cathode 16 and the adjacent cell. The anode 18, supported on an opposite side of the member 60 from the cathode 16, contacts the contact layers 112 of the small dimples 66 of the bipolar foil 50 of the same cell 12. The anode 18 side of the ceramic composite material 61 and the small dimple side of the same cell form the gas tight plenum or chamber where the electrical . . .